

REMARKS/ARGUMENTS

Applicants submit the following remarks with respect to the present application.

The Claim Objections

The Examiner pointed out that the word "aminoalkylenephophonate" in Claims 10-18 should be corrected to read "aminoalkylenephosphonate". Applicants thank the Examiner for pointing out this spelling error but have cancelled claims 10-18.

The 112 Rejections

The Examiner rejected Claims 4 and 13, stating that no N-substituted imino group $R-N=$, can be derived from $R-N(Alk-PO_3H_2)_2$. Applicant has canceled Claims 4 and 13.

The Examiner rejected Claims 10-18 as being unclear as to what method or process applicant is intending to encompass. Applicant has canceled claims 10-18.

The 101 Rejection

The Examiner rejected Claims 10-18 under 35 USC 101. Applicant has canceled Claims 10-18.

The 102 Rejection

The Examiner rejected claims 1-5 and 10-14 under 35 USC 102(b) as being anticipated by Moore et al (FUNDAMENTAL AND APPLIED TOXICOLOGY, 1990 April, 14(3), 491-501). Applicant has amended Claim 1 to specifically recite aminoalkylenephosphates selected from the group consisting of PCTMP, DOTMP, BP2MP, and AMPDMP. Moore et al only teaches the use of EDITMPA to impair or delay osteoid mineralization. Moore et al does not teach administering the specific aminoalkylenephosphonates to minimize loss of bone mineral density, as recited in amended Claim 1. Therefore, amended Claim 1 is not anticipated by Moore et al.

The 103 Rejections

The Examiner rejected Claims 6-9 and 15-18 under 35 USC 103(a) as being unpatentable over Moore et al in view of Jia (US Pat No 5,902,825) and applicants admitted prior arts of record appearing on page 4, lines 14-19 of the specification. Applicant has amended the claims to incorporate the limitations from Claims 6 and 8-9 into claim 1, and applicant has canceled claims 15-18. With respect to amended Claims 1 and 7 which are now pending, Applicant respectfully traverses the rejection and responds as follows.

Moore et al, at page 492, describes the use of EDITEMPA for impairing or delaying osteoid mineralization in dogs. As stated above, Moore et al does not teach or suggest the use of PCTMP, DOTMP, BP2MP, or AMPDMP to prevent or minimize the loss of bone mineral density.

Jia teaches pain palliation in patients having diseases affecting the bone and bone joints by administering a metal-ligand complex. One of the ligands that Jia teaches using in the metal-ligand complexes is DOTMP. However, Jia only teaches the use of DOTMP when it is complexed with certain metals. Applicant has amended claim 7 to overcome this prior art reference by pointing out that when DOTMP is administered according to the present invention, it is not complexed with the metals taught by Jia. For this reason, amended Claim 7 is not obvious in view of Jia.

Jia does not teach or suggest the use of the ligands recited in amended Claim 1. It would not be obvious that the substitution of a different ligand would have the same effect on the loss of bone mineral density as those ligands taught by Jia. For these reasons, amended claim 1 is not obvious in view of Jia.

Furthermore, amended claims 1 and 7 are not obvious over the combination of Moore and Jia, which would be the administration of either EDITEMPA alone or a metal-ligand complex to impair or delay osteoid mineralization. Amended Claims 1 and 7 do not recite such a process and therefore, amended claims 1 and 7 are not obvious over the combination of Moore and Jia.

Applicant's admitted prior art of record appearing on page 4, lines 14-19 of the specification includes US Patent No. 3,288,846 (Irani) and US Patent No. 4,898,724 (Simon).

The Irani reference teaches processes for preparing organophosphonic acids. The Irani reference does not specifically teach making the aminoalkylenephosphonic acids recited in amended Claim 1 or 7. Moreover, the Irani reference does not teach or suggest the use of any aminoalkylenephosphonic acids to minimize the loss of bone mineral density. The Irani reference simply teaches a general method to make organophosphonic acids and is silent as to the specific choice of any particular aminoalkylenephosphonic acid for an end use application. The combination of Moore et al and the Irani reference would simply be a method to make EDITEMPA and the use of EDITEMPA to reduce bone resorption, which is not the invention claimed in amended claim 1 or 7. Therefore, amended claims 1 and 7 are not obvious over the combination of Moore et al and Irani.

The Simon reference teaches certain specific bone agents: EDTMP, DTPMP, HEEDTMP, NTMP, TTHMP, CEDTMP and AEPTMP. The Simon reference does not specifically teach making the aminoalkylenephosphonic acids recited in amended Claim 1 or 7. Moreover, the Simon reference does not teach or suggest the use of any aminoalkylenephosphonic acids to minimize the loss of bone mineral density. The Simon reference simply teaches a general method to make organophosphonic acids and is silent as to the specific choice of any particular aminoalkylenephosphonic acid

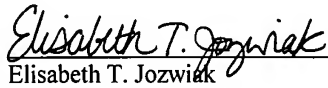
Appln. No. 10/088,884
Response A dated January 16, 2004
Reply to Office Action of September 11, 2003

for an end use application. Applicant would also like to note that the examples in the Simon reference demonstrate that there are differences from one bone agent to another, and therefore a teaching describing the use of one bone agent does not automatically mean that a different bone agent may be substituted and have the same effect.

CONCLUSION

For the reasons stated above, Applicant believes the amended claims are now in condition for allowance. Early notification thereof is respectfully requested.

Respectfully submitted,


Elisabeth T. Jozwiak

Registration No. 41,101
Phone: 989-636-2880

P. O. Box 1967
Midland, MI 48641-1967

ETJ/ab